# State of Delaware

# Department of Natural Resources and Environmental Control

# Proposed Volkswagen Environmental Mitigation Plan

**February 2017**

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# I BACKGROUND

On October 18, 2016, a Partial Consent Decree was finalized between the U.S. Justice Department, the Volkswagen (VW) Corporation, and its subsidiaries regarding the installation and use of emissions testing defeat devices in approximately 500,000 2.0 liter vehicles sold and operated in the United States beginning in 2009. Use of these defeat devices has increased air emissions of nitrogen oxide (NOx), resulting in adverse impacts to air quality and violating the federal Clean Air Act. NOx emissions contribute to the formation of ground-level ozone, which impairs lung function and cardiovascular health.

An Environmental Mitigation Trust has been established as part of the Partial Consent Decree that provides funds to the states to mitigate the air quality impacts from the higher vehicle emissions associated with the offending action. The initial share of funds to Delaware from the Trust is approximately $9 million dollars. The Trust establishes a process to administer these funds, a process for states and tribes to receive the funds, including the development of a mitigation plan, and the types of mitigation "actions" or projects eligible for funding under the Trust[1].

# II MITIGATION PLAN OVERVIEW AND GOAL

On behalf of the State of Delaware, the Department of Natural Resources & Environmental Control (DNREC) has developed the Proposed Environmental Mitigation Plan to provide the public with insight into the State of Delaware's vision and overall approach for uses of the mitigation funds allocated under the Trust. The primary goal of the State of Delaware's mitigation plan is to improve and protect ambient air quality by implementing eligible mitigation projects that will:

- Achieve significant and sustained reductions in diesel emission exposures in areas designated as poor air quality areas, areas with historical air quality issues, and areas that receive a disproportionate quantity of air pollution from diesel fleets, and

- Expedite deployment and widespread adoption of zero emission and near-zero emission vehicles and engines.

In accordance with Appendix D of the Partial Consent Decree,[2] this Proposed Environmental Mitigation Plan specifically describes:

- The funding priorities established to guide the planning, solicitation, and project selection processes,

[1] Appendix D of the Partial Consent Decree MDL No. 2672 CRB (JSC)
[2] Section 4.1 Beneficiary Mitigation Plan, Appendix D of the Partial Consent Decree MDL No. 2672 CRB (JSC).

- The categories of eligible mitigation projects anticipated to be appropriate to achieve the stated goals and the assessment of the allocation of funds anticipated to be used for each type of eligible mitigation project,

- How to consider the potential beneficial impact of the selected eligible mitigation projects on air quality in areas that historically bear a disproportionate share of the air pollution burden, and

- The anticipated ranges of emission benefits that would be realized by implementation of the eligible mitigation projects identified in the Environmental Mitigation Plan.

In addition to the above listed Environmental Mitigation Plan components, the process for seeking and considering public comments on the State of Delaware's Proposed Environmental Mitigation Plan will be included in the final plan as required by the Consent Decree.

The State of Delaware has the discretion to adjust its objectives and specific spending plan when necessary to achieve the plan's goal; for that reason, this plan is a living document. The State of Delaware will provide updates of the mitigation plan to the Trustee and on DNREC's public webpage about Delaware's actions for meeting the requirements of the Partial Consent Decree and the Mitigation Trust at:

**http://www.dnrec.delaware.gov/air/Pages/VWMitigationPlan.aspx**

This Proposed Environmental Mitigation Plan is not a solicitation for projects. As such, this plan does not include detail on the competitive application or project selection process.

## III AVAILABLE FUNDING AND ELIGIBLE APPLICANTS

Delaware's initial allocation of Trust funds is $9,051,682.97 (0.34% of the total $2.7 billion in Trust funds made available to states and Tribes). DNREC anticipates that Trust funds will be made available for mitigation projects by the Fall of 2017. The 2017 time frame is subject to change because the Partial Consent Decree requires certain federal actions prior to states being able to access the Trust funds.

Delaware may request one-third of its total allocation during the first year or two-thirds of its allocation during the first two years after the Trust is initially funded. Non-government and government entities are eligible to apply for funding to implement mitigation projects. Project funding will be awarded through a competitive process in accordance with Delaware's procurement laws[3].

[3] Delaware Procurement laws can be found at http://mymarketplace.delaware.gov/

DNREC will maintain and make publically available all documentation submitted in the support of the funding request and all records supporting all expenditures of eligible mitigation project funds.

# IV FUNDING PRIORITIES FOR CATEGORIES OF ELIGIBLE MITIGATION PROJECT TYPES

The State of Delaware will ensure that projects ultimately funded support the plan's goal (i.e., to improve and protect ambient air quality by implementing eligible mitigation projects). This goal will be achieved by establishing funding priorities to guide the planning, solicitation, and project selection processes. The funding priorities in this plan are based on the assessment of current NOx emissions from mobile sources, demographic and locational data[4], anticipated NOx emissions reductions or offsets from mobile sources, historical and current ground level ozone (O3) and fine particulate matter (PM2.5) nonattainment or maintenance areas, existing air quality improvement measures and programs in Delaware, equity considerations for the distribution of the funds across the State of Delaware, capacity issues for certain sectors to implement programs in a timely and efficient manner, and other factors. Please note that these are funding priorities, not eligibility criteria. These funding priorities, include, but are not limited to:

- Sizeable projects designed to achieve the greatest NOx emission reduction or offset for the dollar (i.e., capital cost effectiveness in dollars/ton),
- Government and non-government entities with demonstrated experience and existing administrative and programmatic structure in place for implementing diesel reduction or offset projects,
- Projects with verified funding (i.e., for projects that require a cost-share) or leveraged funding,
- Projects that can be implemented within three years of the award date,
- Projects in areas that receive a disproportionate quantity of air pollution from diesel fleets such as but not limited to ports, rail yards, truck stops, airports, terminals, and bus depots,
- Projects located in nonattainment or maintenance areas, or areas with historical issues concerning compliance with federal standards for $PM_{2.5}$ and/or ozone, and
- Projects located in areas with toxic air pollution concerns.

The funding priorities established above are subject to change based on public input, new or supplemental air quality data or other data, and other factors.

[4] See Appendix A: NOx Emissions Data for Delaware

# V FUNDING ALLOCATION FOR CATEGORIES OF ELIGIBLE MITIGATION PROJECT TYPES

The categories of eligible mitigation projects deemed appropriate to achieve the stated goal in this plan are based on mobile source NOx emissions sources for Delaware as shown in Figure 1 and Table 1.

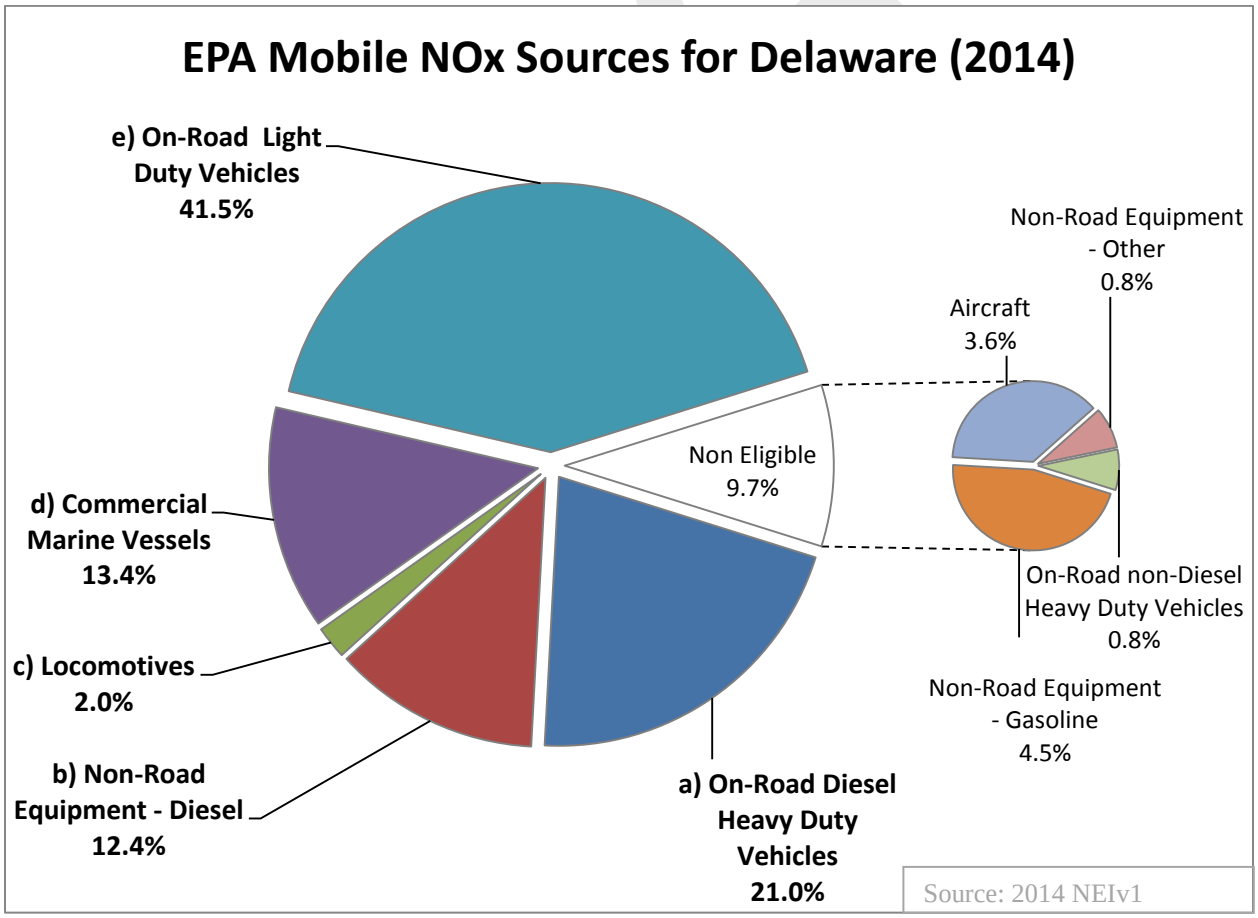



**Figure 1: Mobile NOx Sources for Delaware 2014**

| Mobile NOx Emissions Source | Eligible | Emissions Tons/year | % |
|---|---|---|---|
| On-Road Diesel Heavy Duty Vehicles | Y | 4,369 | 21.0% |
| Non-Road Equipment Diesel | Y | 2,581 | 12.4% |
| Locomotives | Y | 406 | 2.0% |
| Commercial Marine Vessels | Y | 2,796 | 13.4% |
| On-Road Light Duty Vehicles | Y | 8,637 | 41.5% |
| Non-Road Equipment Gasoline | - | 929 | 4.5% |
| Aircraft | - | 757 | 3.6% |
| Non-Road Equipment Other | - | 167 | 0.8% |
| On-Road non-Diesel Heavy Duty Vehicles | - | 164 | 0.8% |

**Table 1: NOx Mobile Emission by Source (Data from NEI 2014v1)**

Considerations informing the funding allocation approach for eligible mitigation projects, include but are not limited to: sources of mobile NOx emissions, sources of anticipated NOx emissions reductions, and options to maximize funding allowable for the deployment of zero emission vehicle supply equipment and to use Trust funds for projects not specifically enumerated in Appendix D-2 of the Trust but eligible under the Diesel Emission Reduction Act (DERA)[5].

This plan proposes to use up to 15% of the Trust funds[6] for the deployment of zero emission vehicle supply equipment to offset emissions from light duty diesel and non-diesel vehicles as established in the Consent Decree. The remaining Trust funds will be allocated for the remaining categories of eligible projects, based on the funding priorities delineated in this plan.

Expenditures from the Trust can only be used for eligible non-government and government mitigation projects that are specified in Appendix D-2 of the Partial Consent Decree. The specific Trust expenditures under this plan, excluding cost caps for non-government projects, will subject to public input, solicitation criteria, actual projects received for funding consideration, and other factors.

The following information provides detail on the categories of eligible project types and anticipated benefits.

[5] The DERA program is a Congressionally-authorized project that enables the U.S. EPA to offer assistance for actions reducing diesel emissions. Thirty percent of the annual DERA funds are allocated to the DERA Clean Diesel State Grant Program. States and territories that match the base amount dollar per dollar receive an additional amount of EPA DERA funding to add to the grant (50% of the base amount). Trust funds can be used for states or territories non-federal match on a 1:1 basis.

[6] Maximum percent allowable for zero emission vehicle supply equipment per Appendix D of the Partial Consent Decree

## a. On-Road Heavy Duty Vehicles

On-road heavy duty vehicles emitted 4,369 tons or 21% of all mobile source NOx emissions in Delaware during 2014.

**Eligible Mitigation Project Types**: Class 8 Local Freight Trucks and Port Drayage Trucks (Large Trucks), Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Buses), and Class 4-7 Local Freight Trucks (Medium Trucks).

- Eligible trucks and buses include 1992 - 2009 engine model years. Eligible trucks and buses may be repowered with any new diesel or alternate fueled engine or all-electric engine, or may be replaced with any new diesel or alternate fueled or all-electric vehicle, with the engine model year in which the mitigation action occurs or one engine model year prior.

Expenditures were established by the Consent Decree for Non-government Owned Eligible Large and Medium Local Freight Truck, and Eligible Buses:

- Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g., compressed natural gas (CNG), propane, hybrid) engine, including the costs of installation of the engine,
- Up to 25% of the cost of a new diesel or alternate fueled (e.g., CNG, propane, hybrid) vehicle,
- Up to 75% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine, and
- Up to 75% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.
- Expenditures for Non-government Owned Eligible Drayage Trucks:
- Up to 40% of the cost for a repower with a new diesel or alternate fueled (e.g., CNG, propane, hybrid) engine, including the costs of installation of the engine,
- Up to 50% of the cost for a new diesel or alternate fueled (e.g., CNG, propane, hybrid) vehicle,
- Up to 75% of the cost for a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine, and

- Up to 75% of the cost for a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.

Expenditures established under the Consent Decree for Government-owned Eligible Large Trucks:

- Up to 100% of the cost of a repower with a new diesel or alternate fueled (e.g., CNG, propane, hybrid) engine, including the costs of installation of such engine,

- Up to 100% of the cost of a new diesel or alternate fueled (e.g., CNG, propane, hybrid) vehicle,

- Up to 100% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine, and

- Up to 100% of the cost of a new all-electric vehicle, including charging infrastructure associated with the new all-electric vehicle.

Expected Benefits include, but are not limited to:

- Tons of pollution reduced over the lifetime of the engines/vehicles, specifically, NOX, PM2.5, greenhouse gases (GHGs) such as carbon dioxide (CO2) and black carbon,

- Net reduction in gallons of diesel fuel and/or other fossil fuels used,

- Improved ambient air quality and human health in communities located in nonattainment areas, areas with historical air quality issues, or in areas that bear a disproportionate share of the air pollution burden, as well as benefits to the local economy, and the welfare of residents in such communities, and

- Reduced public exposure to diesel particulate matter, which the U.S. EPA has classified as a likely human carcinogen.

## b. Non-Road Equipment

Non-road equipment emitted 2,581 tons or 12% of all mobile source NOx emission in Delaware during 2014.

**Eligible Project Types:** Airport Ground Support Equipment, and Forklifts and Port Cargo Handling Equipment.

- Eligible airport ground support equipment includes Tier 0, Tier 1, or Tier 2 diesel powered airport ground support equipment, and uncertified, or certified to 3 grams per brake horsepower-hour or higher emissions, spark ignition engine powered airport ground support equipment.

- Eligible forklifts include reach stackers, side loaders, and top loaders with greater than 8000 pounds lift capacity.

- Eligible port cargo handling equipment includes rubber-tired gantry cranes, straddle carriers, shuttle carriers, and terminal tractors, including yard hostlers and yard tractors that operate within ports.

Expenditures established under the Consent Decree for Non-government Owned Eligible Airport Ground Support, and Forklifts and Port Cargo Handling Equipment:

- Up to 75% of the cost of a repower with a new all-electric engine, including the costs of installation of the engine, and charging infrastructure associated with the new all-electric engine, and

- Up to 75% of the cost of new all-electric equipment, including charging infrastructure associated with the new all-electric equipment.

Expenditures established under the Consent Decree for Government Owned Eligible Expenditures Airport Ground Support, and Forklifts and Port Cargo Handling Equipment:

- Up to 100% of the cost of a repower with a new all-electric engine, including the costs of installation of such engine, and charging infrastructure associated with the new all-electric engine, and

- Up to 100% of the cost of new all-electric equipment, including charging infrastructure associated with the new all-electric equipment.

Expected Benefits include, but are not limited to:

- Tons of pollution reduced or avoided over the lifetime of the zero emissions vehicle supply equipment, specifically, NOX, PM2.5, GHGs such as CO2 and black carbon,

- Net reduction in gallons of diesel fuel and/or other fossil fuels used,

- Improved ambient air quality and human health in communities located in nonattainment areas, areas with historical air quality issues, or in areas that bear a disproportionate share of the air pollution burden, as well as

benefits to the local economy, and the welfare of residents in such communities, and

- Reduced public exposure to diesel particulate matter, which the U.S. EPA has classified as a likely human carcinogen.

## c. Locomotives

Locomotives emitted 406 tons or 2% of all mobile source NOx emission in Delaware during 2014.

**Eligible Project Types:** Eligible freight switchers include pre-Tier 4 switcher locomotives that operate 1000 or more hours per year.

- Eligible Freight Switchers may be repowered with any new diesel or alternate fueled or all-electric engines (including generator sets), or may be replaced with any new diesel or alternate fueled or all-electric (including generator sets) freight switchers that are certified to meet the applicable EPA emissions standards as published in the federal code for the engine model year in which the eligible freight switcher mitigation action occurs.

Expenditures established under the Consent Decree for Non-government Owned Freight Switchers:

- Up to 40% of the cost for a repower with new diesel or alternate fueled (e.g., CNG, propane, hybrid) engines or generator sets, including the costs of installation,

- Up to 25% of the cost for a new diesel or alternate fueled (e.g., CNG, propane, Hybrid) freight switcher,

- Up to 75% of the cost for a repower with new all-electric engines, including the costs of installation and associated charging infrastructure, and

- Up to 75% of the cost for new all-electric freight switchers, including associated charging infrastructure.

Expenditures established under the Consent Decree for Government Owned Freight Switchers:

- Up to 100% of the cost for a repower with new diesel or alternate fueled (e.g., CNG, propane, hybrid) engines or generator sets, including the costs of installation,

- Up to 100% of the cost for a new diesel or alternate fueled (e.g., CNG, propane, hybrid) freight switcher,

- Up to 100% of the cost for a repower with new all-electric engines, including the costs of installation and associated charging infrastructure, and

- Up to 100% of the cost for new all-electric freight switchers, including associated charging infrastructure.

Expected Benefits include, but are not limited to:

- Tons of pollution reduced or avoided over the lifetime of the zero emissions vehicle supply equipment, specifically, NOX, PM2.5, GHGs such as CO2 and black carbon,

- Net reduction in gallons of diesel fuel and/or other fossil fuels used,

- Improved ambient air quality and human health in communities located in nonattainment areas, in areas with historical air quality issues, or in areas that bear a disproportionate share of the air pollution burden, as well as benefits to the local economy, and the welfare of residents in such communities, and

- Reduced public exposure to diesel particulate matter, which EPA has classified as a likely human carcinogen.

## d. Commercial Marine Vessels

Commercial marine vessels emitted 2,796 tons or 13% of all mobile source NOx emissions in Delaware during 2014.

**Eligible Project Types:** ferries or tugs, and shorepower for ocean-going vessels.

- Eligible ferries or tugs include unregulated, Tier 1, or Tier 2 marine engines. Eligible ferries and/or tugs may be repowered with any new Tier 3 or Tier 4 diesel or alternate fueled engines, or with all-electric engines, or may be upgraded with an EPA Certified Remanufacture System or an EPA Verified Engine Upgrade. Eligible marine shorepower comprises systems that enable a compatible vessel's main and auxiliary engines to remain off while the vessel is at berth, and include cables, cable management systems, shore power coupler systems, distribution control systems, and power distribution.

Expenditures established under the Consent Decree for Non-government Owned Eligible Ferries or Tugs and Shore Power for Ocean-going Vessels:

- Up to 40% of the cost of a repower with a new diesel or alternate fueled (e.g., CNG, propane, hybrid) engines, including the costs of installation of the engines for ferries or tugs,

- Up to 75% of the cost of a repower with new all-electric engines, including the costs of installation and associated charging infrastructure,

- Up to 25% for the costs associated with the shore-side system, including cables, cable management systems, shore power coupler systems, distribution control systems, installation, and power distribution systems.

Expenditures established under the Consent Decree for Government-owned Eligible Ferries or Tugs and Shore Power for Ocean-going Vessels:

- Up to 100% of the cost of a repower with new diesel or alternate fueled (e.g., CNG, propane, hybrid) engines, including the costs of installation,

- Up to 100% of the cost of a repower with new all-electric engines, including the costs of installation and associated charging infrastructure, and

- Up to 100% for the costs associated with the shore-side system, including cables, cable management systems, shore power coupler systems, distribution control systems, installation, and power distribution systems.

Expected Benefits include, but are not limited to:

- Tons of pollution reduced or avoided over the lifetime of the zero emissions vehicle supply equipment, specifically, NOX, PM2.5, GHGs such as CO2 and black carbon,

- Net reduction in gallons of diesel fuel and/or other fossil fuels used,

- Improved ambient air quality and human health in communities located in nonattainment areas, in areas with historical air quality issues, or in areas that bear a disproportionate share of the air pollution burden, as well as benefits to the local economy, and the welfare of residents in such communities, and

- Reduced public exposure to diesel particulate matter, which EPA has classified as a likely human carcinogen.

## e. Light Duty Zero Emission Vehicle Supply Equipment – Up to 15%

Light duty vehicles emitted 8,637 tons or 41.5% of all mobile source NOx emission in Delaware during 2014. Infrastructure investments would expedite the deployment of zero emission vehicles (ZEVs) and help mitigate the largest source of NOx emissions in Delaware.

**Eligible Project Types:** D.C. "fast" electric vehicle supply equipment, light duty hydrogen fuel cell vehicle supply equipment

- Eligible light duty zero emission vehicle (ZEV) supply equipment must be D.C. fast charging equipment (or analogous successor technologies) that is located in a public place, workplace, or multi-unit dwelling and is not consumer light duty electric vehicle supply equipment (i.e., not located at a private residential dwelling that is not a multi-unit dwelling);
- Eligible hydrogen fuel cell vehicle supply equipment includes hydrogen dispensing equipment capable of dispensing hydrogen at a pressure of 70 megapascals (or analogous successor technologies) that is located in a public place.

Expenditures established under the Consent Decree for Eligible ZEV Supply Equipment:

- Up to 100% of the cost to purchase eligible light duty electric vehicle supply equipment that will be available to the public at a government owned property,

- Up to 80% of the cost to purchase eligible light duty electric vehicle supply equipment that will be available to the public at a nongovernment owned property,

- Up to 60% of the cost to purchase eligible light duty electric vehicle supply equipment that will be available at a multi-unit dwelling but not to the general public,

- Up to 33% of the cost to purchase eligible hydrogen fuel cell vehicle supply equipment capable of dispensing at least 250 kilograms per day (kg/day) that will be available to the public, and

- Up to 25% of the cost to purchase eligible hydrogen fuel cell vehicle supply equipment capable of dispensing at least 100 kg/day that will be available to the public.

Expected Benefits include, but are not limited to:

- Tons of pollution reduced over the lifetime of the engines/vehicles, specifically, NOx, PM2.5, GHGs such as $CO_2$ and black carbon,
- Net avoided diesel or gasoline used,
- Improved ambient air quality and human health in communities located in nonattainment areas, in areas with historical air quality issues, or in areas that bear a disproportionate share of the air pollution burden, as well as benefits to the local economy, and the welfare of residents in such communities, and
- Reduced public exposure to diesel particulate matter, which EPA has classified as a likely human carcinogen.

## f. Diesel Emission Reduction Act (DERA) Option

The tons or percentage of NOx emitted is dependent on the actual source or sector. The anticipated emissions reduction is dependent on the source and actual project type.

Potential heavy duty diesel emission source types not specifically enumerated in Appendix D-2 of the Trust but eligible for funding through DERA include, but not limited to:

- Long-haul locomotives
- Non-road engines, equipment, and vehicles used in:
    - Agriculture
    - Construction
    - Cargo Handling (includes ports and airports)
    - Energy production
    - Mining

Potentially eligible diesel reduction mitigation projects may include:

- Exhaust controls
- Engine upgrades
- Cleaner fuel use
- Verified idle reduction technologies (e.g., truck stop electrification)

- Verified aerodynamic technologies and verified low rolling resistance tires

- Vehicle and equipment replacement including replacement with newer cleaner diesel or hybrid or alternative fuel equipment/vehicles

- Clean alternative fuel conversions

This is not an exhaustive list of source types and projects eligible for applying for funding under Delaware's DERA State Clean Diesel Grant Program.

Any source type applying for grant funding will be subject to the requirements of the DERA State Clean Diesel Grant Program, including but not limited to general eligibility, project evaluation criteria, eligible project and administrative expenditures, cost-share, and funding restrictions.

Expected Benefits include, but are not limited to:

- Tons of pollution reduced or avoided over the lifetime of the zero emissions vehicle supply equipment, specifically, NOX, PM2.5, GHGs such as CO2 and black carbon,

- Net reductions or avoided diesel used,

- Improved ambient air quality and human health in communities located in nonattainment areas, in areas with historical air quality issues, or in areas that bear a disproportionate share of the air pollution burden, as well as benefits to the local economy, and the welfare of residents in such communities,

- Reduced public exposure to diesel particulate matter, which EPA has classified as a likely human carcinogen, and

# VI ANTICIPATED ENVIRONMENTAL BENEFITS

The retrofit, repower, or replacement of eligible vehicles and equipment may provide a wide range of emission benefits based on many variables, including the type of vehicle or engine replaced, the initial age of the engine, and the engine power rating. Based on current EPA exhaust emission standards for NOx:[7]

- Heavy duty highway vehicles may provide up to a 96% reduction in NOx emissions per vehicle, based on replacing a model year 1992 engine with a model year 2007 engine,
- Non-road equipment replacements, depending on the type of equipment and engine power rating, may provide between a 20% and 95% reduction in NOx emissions for each engine,
- Locomotives, replacing the oldest (Tier 0) engine with the newest (Tier 4) engine may provide up to an 89% NOx reduction per engine,
- Commercial marine vessels, an upgrade or repower of a ferry or tug engine may provide up to an 80% NOx reduction for each vessel, and
- Shorepower projects may reduce all NOx exhaust emissions from many ocean-going vessels.

These anticipated ranges of emission benefits were used to inform the plan's funding priorities, categories of eligible mitigation projects, and funding allocation considerations for each category of eligible mitigation projects. It is important to note that the range of emission benefits mentioned above are for individual engines and actual NOx emissions reductions will vary based on the type of projects received for funding consideration and the eligible mitigation projects ultimately funded. However, in order to achieve the goal of the state mitigation plan, it is a priority to fund sizeable projects designed to achieve the greatest emission reduction for the dollar (i.e., capital cost effectiveness in dollars/ton).

[7] EPA exhaust emission standard data retrieved from: https://www.epa.gov/emission-standards-reference-guide.

# APPENDIX A

## Appendix A: NOx Emission Charts For Delaware

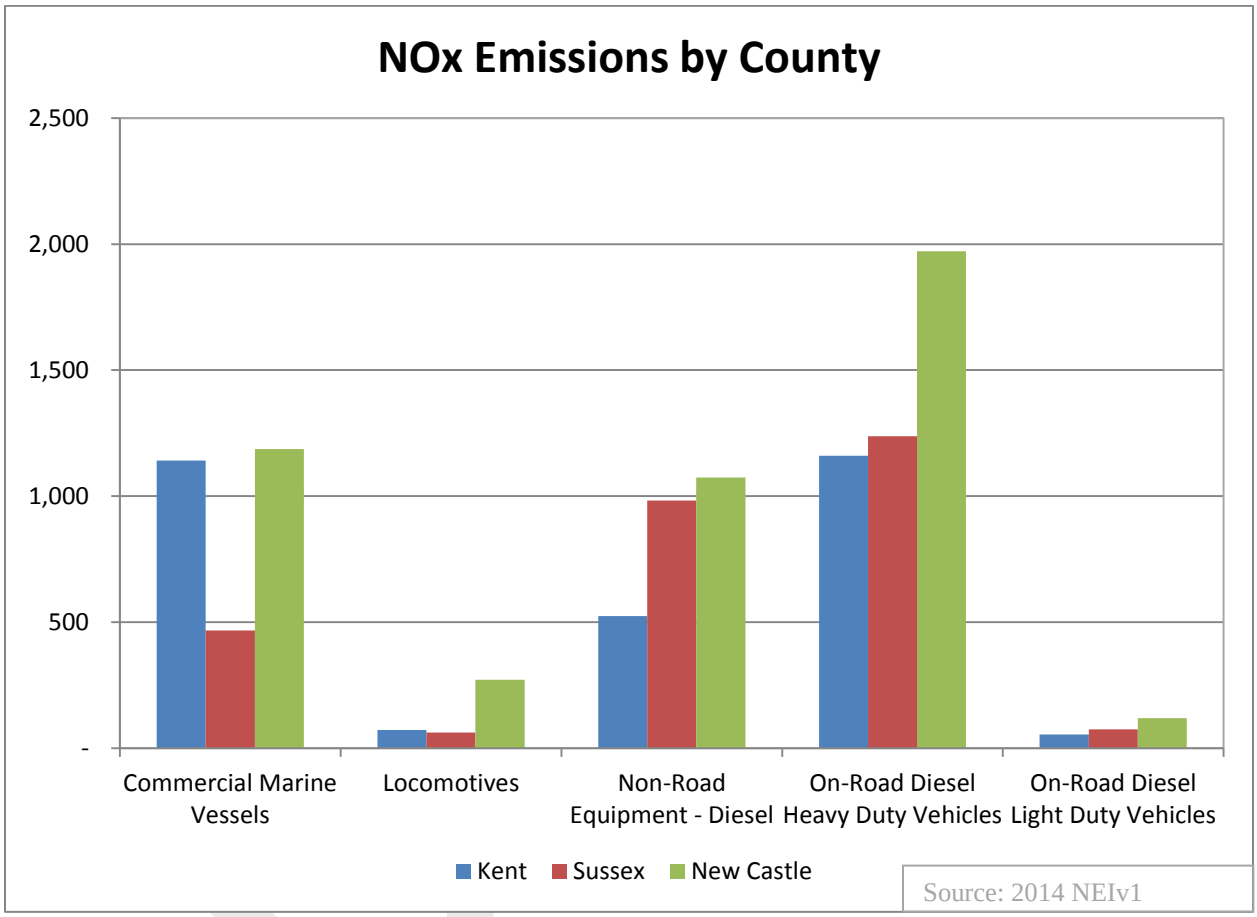



Figure A-1: NOx Emissions by County

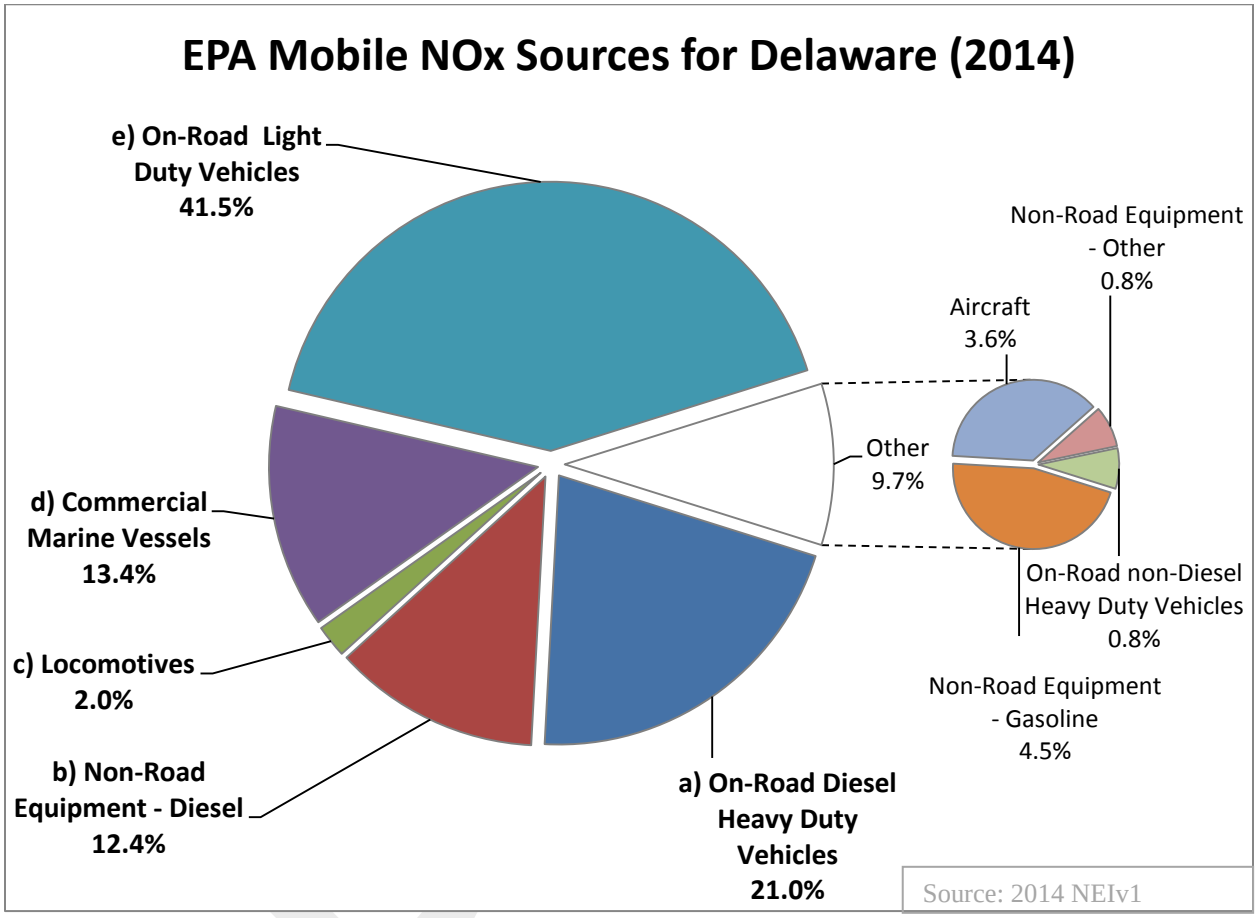



Figure A-2: Mobile NOx Sources for Delaware

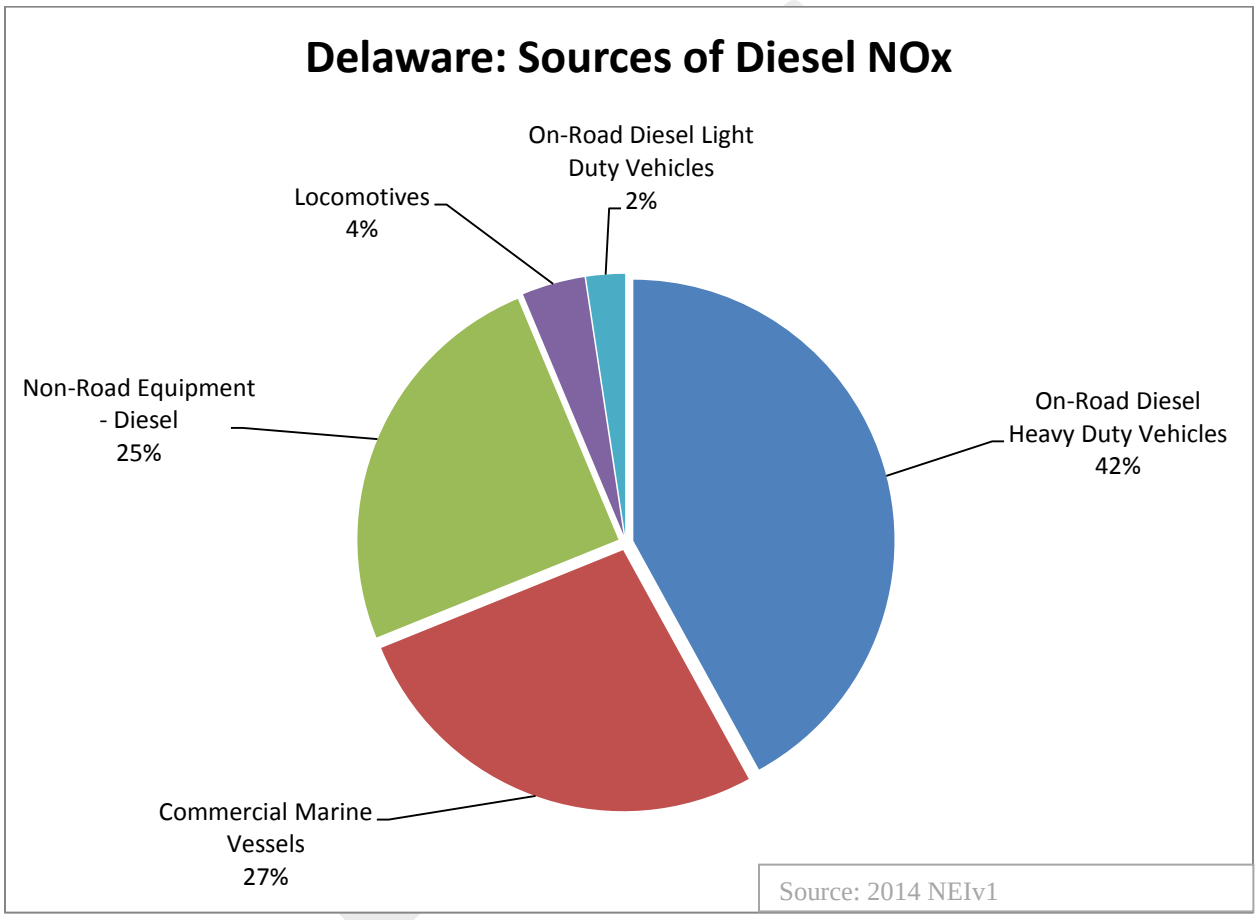
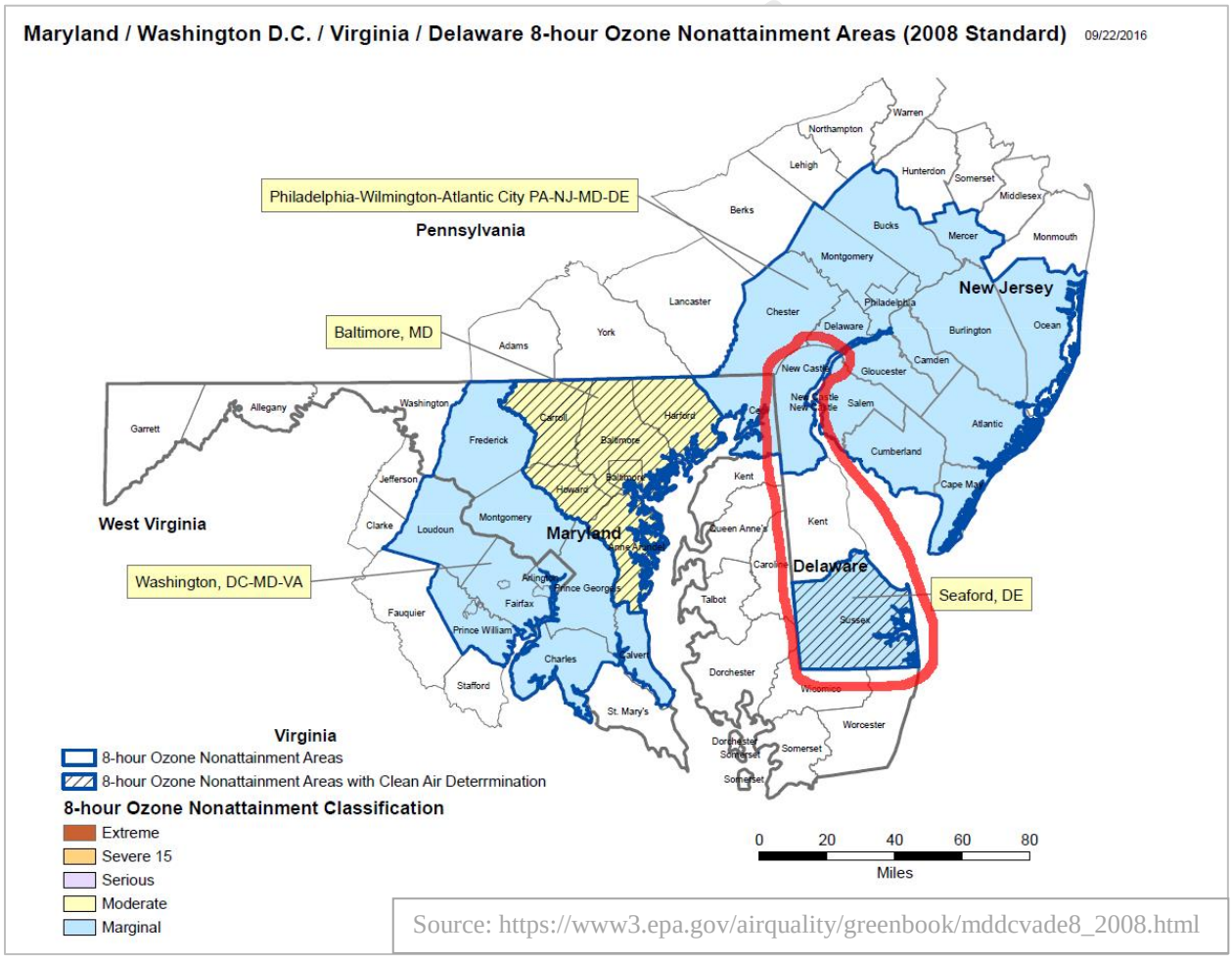



Figure A-3: Delaware: Sources of Diesel NOx




A-4: Ozone Non-attainment Map for Delaware and Surrounding Areas

# APPENDIX B

## Appendix B: VW Environmental Settlement & Mitigation Plan Timeline of Events

| **Tentative Timeline of Events** | |
|---|---|
| **Event** | **Approximate Time Frame*** |
| Court approves the partial settlement | October 25, 2016 |
| Court Approves Trustee | Winter 2016 |
| Court Approves Trust | Spring 2017 |
| Delaware files a Beneficiary Certification | Spring 2017 |
| Trustee Certifies Delaware as a Beneficiary | Spring 2017 |
| Public Comment on the draft Mitigation Plan | Spring 2017 |
| Delaware submits Mitigation Plan | Summer 2017 |
| Delaware solicits projects through RFP process | Fall 2017 |

*all dates are estimates and are subject to change

# APPENDIX C

## Appendix C: Definitions

"Airport Ground Support Equipment" means vehicles and equipment used at an airport to service aircraft between flights.

"All-Electric" means powered exclusively by electricity provided by a battery, fuel cell, or the grid.

"Alternate Fueled" means an engine, or a vehicle or piece of equipment which is powered by an engine, which uses a fuel different from or in addition to gasoline fuel or diesel fuel (e.g., compressed natural gas, propane, diesel-electric hybrid).

"Certified Remanufacture System or Verified Engine Upgrade" means engine upgrades certified or verified by EPA or California Air Resources Board (CARB) to achieve a reduction in emissions.

"Class 4-7 Local Freight Trucks (Medium Trucks)" means trucks, including commercial trucks, used to deliver cargo and freight (e.g., courier services, delivery trucks, box trucks moving freight, waste haulers, dump trucks, concrete mixers) with a gross vehicle weight rating (GVWR) between 14,001 and 33,000 pounds (lbs).

"Class 4-8 School Bus, Shuttle Bus, or Transit Bus (Buses)" means vehicles with a GVWR greater than 14,001 lbs used for transporting people.

"Class 8 Local Freight and Port Drayage Trucks" means trucks with a GVWR greater than 33,000 lbs used for port drayage and/or freight/cargo delivery, including waste haulers, dump trucks, and concrete mixers.

"Drayage Trucks" means trucks hauling cargo to and from ports and intermodal rail yards.

"Forklift" means non-road equipment used to lift and move materials short distances, and generally include tines to lift objects. Eligible types of forklifts include reach stackers, side loaders, and top loaders.

"Freight Switcher" means a locomotive that moves rail cars around a rail yard as compared to a line-haul engine that move freight long distances.

"Generator Set" means a switcher locomotive equipped with multiple engines that can turn off one or more engines to reduce emissions and save fuel depending on the load it is moving.

"Government" means a state or local government agency (including a school district, municipality, city, county, special district, transit district, joint powers authority, or port

authority, owning fleets purchased with government funds), and a tribal government or native village.

"Gross Vehicle Weight Rating (GVWR)" means the maximum weight of the vehicle, as specified by the manufacturer. GVWR include the following total vehicle weight plus fluids, passengers, and cargo:

Class 1: < 6000 lbs
Class 2: 6001-10,000 lbs
Class 3: 10,001-14,000 lbs
Class 4: 14,001-16,000 lbs
Class 5: 16,001-19,500 lbs
Class 6: 19,501-26,000 lbs
Class 7: 26,001-33,000 lbs
Class 8: > 33,001 lbs

"Hybrid" means a vehicle that combines an internal combustion engine with a battery and electric motor.

"Infrastructure" means the equipment used to enable the use of electric powered vehicles (e.g., electric charging stations).

"Intermodal Rail Yard" means a rail facility in which cargo is transferred from drayage truck to train or vice-versa.

"Port Cargo Handling Equipment" means rubber-tired gantry cranes, straddle carriers, shuttle carriers, and terminal tractors, including yard hostlers and yard tractors that operate within ports.

"Repower" means to replace an existing engine with a newer, cleaner engine or power source that is certified by EPA and, if applicable, CARB, to meet a more stringent set of engine emission standards. Repower includes, but is not limited to, diesel engine replacement with an engine certified for use with diesel or a clean alternate fuel, diesel engine replacement with an electric power source (grid, battery), diesel engine replacement with a fuel cell, diesel engine replacement with an electric generator(s) genset, diesel engine upgrades in ferries or tugs with an EPA Certified Remanufacture System, and/or diesel engine upgrades in ferries or tugs with an EPA Verified Engine Upgrade. All-Electric and fuel cell repowers do not require EPA or CARB certification.

"School Bus" means a Class 4-8 bus sold or introduced into interstate commerce for purposes that include carrying students to and from school or related events.

"Scrapped" means to render inoperable and available for recycle, and, at a minimum, to specifically cut a 3-inch hole in the engine block for all engines. If any eligible vehicle will be replaced as part of an eligible project, "scrapped" shall also include the disabling of the chassis by cutting the vehicle's frame rails completely in half.

"Tier 0, 1, 2, 3, and 4" refers to corresponding EPA engine emission classifications for non-road, locomotive and marine engines.

"Tugs" means dedicated vessels that push or pull other vessels in ports, harbors, and inland waterways (e.g., tugboats and towboats).

"Zero Emission Vehicle (ZEV)" means a vehicle that produces no emissions from the onboard source of power (e.g., all-electric or hydrogen fuel cell vehicles).

# APPENDIX D

## Appendix D: Public Comment Period Activities

DNREC will solicit and compile public comments on the proposed mitigation plan.

DNREC particularly seeks comment on the following issues regarding the Environmental Mitigation Plan:

1. How the settlement money should be distributed, spent, and accounted for.
2. How to maximize the air quality benefits resulting from the trust.
3. Whether projects should be fully funded or partially funded (the trust allows reimbursement of 25%-100% of eligible costs, depending on the project category).
4. What process should Delaware use to solicit, review, and approve or disapprove applications for funds?
5. Whether to set aside funds for particular categories of projects or applicants?
6. Whether to give preferences to certain fuels, such as diesel, compressed natural gas, propane, hydrogen fuel cell or battery electric?
7. The emission reductions achievable from each eligible mitigation measure.
8. The costs and benefits of replacing or repowering vehicles with "Alternate Fueled" or "All-Electric" engine technologies, as defined by Appendix D-2 of the Consent Decree.
9. The percentage of trust funds, if any, that Delaware should devote to Light Duty Zero Emission Vehicle Supply Equipment
10. Whether to expend trust funds on the "DERA Option"
11. How to determine whether a proposed project will benefit areas that have been disproportionately impacted by emissions of nitrogen oxides (NOx) or other pollutants, and information about such impacts in particular areas of Delaware
12. The criteria for evaluating applications for funds. How should Delaware consider the following factors, and what other factors should it consider?
    a. Reductions in emissions of NOx and other pollutants
    b. Ozone, particulate matter, visibility, climate change, public health and other environmental values
    c. Project costs and benefits
    d. The economic impacts of proposed projects
    e. The geographic distribution of funds
    f. The division of funds between the categories of eligible projects
    g. An applicant's status as a government agency, large business, small business, individual person, or other category
    h. Whether a project applicant is low income, minority, or disadvantaged or operates vehicles in these communities

i. Benefits to areas that have been disproportionately impacted by NOx and other pollutants

j. The number of affected vehicles registered in the county where the project is proposed or predominantly operated in those counties

k. The project's potential to accelerate a broader transition to Alternate Fueled or All-Electric vehicles

13. DNREC will conduct public outreach through in-person public meetings, presentations to stakeholder groups, Facebook posts, tweets, written comments and traditional media. What additional factors, if any, should DNREC consider in its public outreach?

Comments will be requested from Delaware stakeholders. Responses to comments will be posted on the **DNREC Volkswagen Mitigation webpage** at www.dnrec.delaware.gov/air/pages/vwmitigationplan.aspx. Changes resulting from submitted comments will be incorporated into the final Plan.